

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-11. (cancelled)

12. (currently amended) A ~~person recognition~~ device, comprising:

a scanning fingerprint image sensor ~~on one base which acquires an image line or a small number of image lines;~~ operable for acquiring partial images of a fingerprint of a finger obtained during a relative movement between the finger and the image sensor;

~~means for reconstructing an overall print image by correlation between partial images obtained during a relative movement between the finger and the sensor, and~~

a spectral transmission information sensor for acquiring partial spectral transmission information relating to ~~the skin of the finger whose print is recorded by the image sensor, the image sensor and the spectral information sensor being designed to function alternately;~~

circuitry coupled to the sensors and operable for initiating alternate acquisition of the partial images and the partial spectral transmission information.

13. (previously presented) The device as claimed in claim 12, where the fingerprint image sensor is located on a silicon chip and the spectral transmission information sensor has light-emitting diodes and photodiodes.

14. (currently amended) The device as claimed in claim 13, wherein the photodiodes and the light-emitting diodes are located on the same silicon chip as the ~~print-fingerprint~~ image sensor.

15. (previously presented) The device as claimed in claim 13, wherein the light-emitting diodes and the photodiodes are arranged symmetrically with respect to an axis.

16-19. (cancelled)

20. (currently amended) The device as claimed in claim 12, wherein the ~~print-fingerprint~~ image sensor is an optical or capacitive or thermal sensor or a sensor sensitive to the flow of current through the finger, or a sensor sensitive to pressure.

21. (currently amended) The device as claimed in claim 12, wherein ~~the a~~ same light source is used both for the fingerprint acquisition and for the spectral information acquisition.

22. (previously presented) The device as claimed in claim 12, wherein the spectral information acquisition comprises a measurement at a wavelength used for the detection of blood and/or the oxygen level in hemoglobin.

23. (previously presented) The device as claimed in claim 14, wherein the light-emitting diodes and the photodiodes are arranged symmetrically with respect to an axis.

24. (new) A method comprising:  
    acquiring a fingerprint image of a first finger of a person;  
    acquiring spectral characteristic information of skin of the first finger or a second finger of the person, where the spectral characteristic information is related to dermis structure;  
and

using at least a portion of the fingerprint image and at least a portion of the spectral characteristic information to recognize the person.

25. (new) The method of claim 24, where acquiring the fingerprint image and the spectral characteristic information further comprises:

- acquiring a first portion of the fingerprint image;
- acquiring a first portion of the spectral characteristic information;
- acquiring a second portion of the fingerprint image; and
- acquiring a second portion of the spectral characteristic information.

26. (new) The method of claim 24, where acquiring the fingerprint image and the spectral characteristic information further comprises:

- acquiring a first portion of the spectral characteristic information;
- acquiring a first portion of the fingerprint image;
- acquiring a second portion of the spectral characteristic information; and
- acquiring a second portion of the fingerprint image.

27. (new) The method of claim 24, where acquiring the spectral characteristic information further comprises:

- measuring an optical response of the skin to a light excitation for different optical wavelengths.

28. (new) The method of claim 24, further comprising:

- checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and
- using a result of the checking to recognize the person.

29. (new) A device comprising:

an image sensor operable for acquiring a fingerprint image of a first finger of a person;

a spectral transmission sensor operable for acquiring spectral characteristic information of skin of the first finger or a second finger of the person, where the spectral characteristic information is related to dermis structure; and

using at least a portion of the fingerprint image and at least a portion of the spectral characteristic information to recognize the person.

30. (new) The device of claim 29, where acquiring the fingerprint image and the spectral characteristic information further comprises:

acquiring a first portion of the fingerprint image;

acquiring a first portion of the spectral characteristic information;

acquiring a second portion of the fingerprint image; and

acquiring a second portion of the spectral characteristic information.

31. (new) The device of claim 29, where acquiring the fingerprint image and the spectral characteristic information further comprises:

acquiring a first portion of the spectral characteristic information;

acquiring a first portion of the fingerprint image;

acquiring a second portion of the spectral characteristic information; and

acquiring a second portion of the fingerprint image.

32. (new) The device of claim 29, where acquiring the spectral characteristic information further comprises:

measuring an optical response of the skin to a light excitation for different optical wavelengths.

33. (new) The device of claim 29, wherein the device checks for consistency between at least a portion of the fingerprint image and the spectral characteristic information, and uses a result of the check to recognize the person.

34. (new) A method comprising:  
    acquiring a fingerprint image of a first finger of a person;  
    acquiring spectral characteristic information of skin of the first finger or a second finger of the person;  
    checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and  
    using a result of the checking to recognize the person.

35. (new) The method of claim 34, where acquiring the fingerprint image and the spectral characteristic information further comprises:  
    acquiring a first portion of the fingerprint image;  
    acquiring a first portion of the spectral characteristic information;  
    acquiring a second portion of the fingerprint image; and  
    acquiring a second portion of the spectral characteristic information.

36. (new) The method of claim 34, where acquiring the fingerprint image and the spectral characteristic further comprises:  
    acquiring a first portion of the spectral characteristic information;  
    acquiring a first portion of the fingerprint image;  
    acquiring a second portion of the spectral characteristic information; and  
    acquiring a second portion of the fingerprint image.

37. (new) The method of claim 34, where acquiring the spectral characteristic information further comprises:

measuring an optical response of the skin to a light excitation for different optical wavelengths.

38. (new) A device comprising:

an image sensor operable for acquiring a fingerprint image of a first finger of a person; and

a spectral transmission sensor operable for acquiring spectral characteristic information of skin of the first finger or a second finger of the person, where the device is operable for checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information, and for using a result of the checking to recognize the person.

39. (new) The device of claim 38, where acquiring the fingerprint image and the spectral characteristic information further comprises:

acquiring a first portion of the fingerprint image;  
acquiring a first portion of the spectral characteristic information;  
acquiring a second portion of the fingerprint image; and  
acquiring a second portion of the spectral characteristic information.

40. (new) The device of claim 38, where acquiring the fingerprint image and the spectral characteristic further comprises:

acquiring a first portion of the spectral characteristic information;  
acquiring a first portion of the fingerprint image;  
acquiring a second portion of the spectral characteristic information; and  
acquiring a second portion of the fingerprint image.

41. (new) The device of claim 38, where acquiring the spectral characteristic information further comprises:

measuring an optical response of the skin to a light excitation for different optical wavelengths.

42. (new) The device of claim 38, where the image sensor and the spectral transmission sensor share a surface on which the first or second finger presses during a person recognition operation.

43. (new) The device of claim 38, where the image sensor is smaller than the spectral transmission sensor to enable the acquisitions with a single touch by the user.

44. (new) A system comprising:  
    means for acquiring a fingerprint image of a first finger of a person;  
    means for acquiring spectral characteristic information of skin of the first finger or a second finger of the person;  
    means for checking for consistency between at least a portion of the fingerprint image and at least a portion of the spectral characteristic information; and  
    means for using a result of the checking to recognize the person.